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ABSTRACT

There is a scarcity of research material on the correlation between the quality of accredited teacher-training programs and the subsequent performance of the student as teacher, to demonstrate that students from accredited programs are more competent than those from non-accredited programs. Standards for resources and facilities tend to be based primarily on the experience and judgment of the committee. Three proposals for research are (1) experimental studies of limited but related problems which would ultimately provide data for broader theorizing; (2) an information bank recording a student's biographical data, in-training experience and evaluation by superiors, and follow-up data on success or failure in teaching (if operated by a central agency such as AACTE and with enough institutions participating, this could provide a valuable means of testing hypotheses); (3) a crash program in the form of a large-scale questionnaire patterned after the Equal Opportunities Survey and using two sources--program characteristics from every sizable training institution, and data from first- and second-year teachers on their training and teaching success. This would give evidence of the validity of the proposed standards and also suggest research studies and program innovation. (MBM)

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SOME NOTES ON THE RESEARCH BASE FOR THE "STANDARDS FOR THE ACCREDITATION OF TEACHER EDUCATION BASIC PROGRAMS: STANDARDS OF RESOURCES"

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SOME NOTES ON THE RESEARCH BASE FOR THE
"STANDARDS FOR THE ACCREDITATION OF TEACHER EDUCATION
BASIC PROGRAMS: STANDARDS OF RESOURCES"

On the first page of the introduction to the Recommended Standards, the following statement appears:

> "NCATE accreditation validates the quality of preparation programs and signifies that persons recommended by the institution can be expected to perform satisfactorily in typical teaching and other professional school positions throughout the United States." (p. 1)

This statement clearly implies that if a program meets the recommended standards and is therefore accredited by NCATE, teachers trained in it will be competent--or, at least, will be more competent, on the average, than teachers trained in programs which do not meet recommended standards and are therefore not accredited.

If the standards are to be based on research findings, then the research must show a correlation between certain program characteristics and measures of teaching competence or success of graduates of the program.

I have been asked to discuss the research base underlying the Recommended Standards related to resources and facilities. This statement seems to me to define pretty clearly what kind of a research base is needed. What is needed is research evidence that graduates of accredited programs--of programs which measure up to the recommended standards, that is--make better teachers than graduates of programs which do not measure up to these standards. The inclusion of any given standard should be justified by evidence that that particular element is related to the effectiveness of teachers graduated from the program which contains it.

As applied to my own assignement, I take this to mean that I should look for research of the following kinds. I should look for studies showing that the quality of teachers is related to the quality of the library in the undergraduate colleges in which they receive their basic teacher training. I should look for evidence that teachers graduating from colleges with adequate faculty offices or well lighted classrooms tend to succeed better than teachers from colleges where classrooms and offices are antiquated or crowded, even though curricula, quality of faculty, and other characteristics of their training do not differ. I should review studies

relating how much pupils learn from a teacher to what kinds of media were available in his undergraduate college.

As you might suspect, studies such as these are hard to find. It would be no exaggeration to say that if the validity of the standards for resources has to be based on research of this type, there is no basis for calling them valid. The fact that they do have validity is a result of the wisdom of the committee who drew them up--of their experience, their intuitive judgment, their familiarity with what little research there is. And I am afraid that among these three, research makes by far for the smallest contribution.

Rather than picking over what bits and pieces there are, I shall spend the time allotted to me today in discussing what might be done to close up the gap between needed research and what is available. Our very presence at this meeting is evidence of our commitment to the idea that decisions made in education in general, and in teacher education in particular, should be based on scientific knowledge, and that the members of committees like the one which drew up the Recommended Standards should be able to base their recommendations to a much greater extent on research than on either experience or intuition.

As I see it, we have available to us three ways of attacking the problem of bringing research results closer to decision needs in teacher education. One thrust would employ careful, well-designed research; a second thrust would involve the systematic exchange of program evaluation data; and the third would take the form of a one-time crash project which I will describe later.

Thrust 1: Research. Under this heading we would continue to encourage carefully designed experimental studies, most of which would be moderate in size and modest in purpose, in the sense that any single investigation would be directed only at a portion of the problem. The attack would be piecemeal and the increase in knowledge, gradual.

The notion that program facilities contribute to competence of program graduates, for example, depends on a series of relationships something like this: (a) the presence of facilities is related to the nature of the experiences a teacher has in training, (b) the nature of the training experiences a teacher has is related to the terminal behaviors or skills he possesses

when he graduates, (c) the terminal behaviors a graduate possesses are related to his success in the classroom--that is, his competence on the job.

The kind of research I have in mind would normally study relationships between contiguous elements in this chain. Some studies would attempt to establish relationships between institutional resources and curriculum innovations. Others would relate curriculum innovations to terminal behaviors. Still others would relate terminal behaviors to effectiveness in the classroom. Over a period of time, as more and more knowledge about such relationships accumulated, the chain of relationships from facilities to teacher competence would become stronger and stronger.

But the process would be a slow one, with relatively little pay-off in its early stages. Substantial pay-off would not come until a critical point is reached--the point at which it is possible to propound a theory broad enough to cover the entire series. Until this is done, bits of knowledge must be added one by one. Afterward, each increment of knowledge would reverberate throughout the system and its effect would be correspondingly multiplied.

As far as teacher education goes, it will be some time before we reach such a critical point. As I see it, this does not mean we should slow up our research effort; on the contrary, we must continue to support all the research we can, since we cannot really begin to make progress toward satisfactory solution, to any of our problems until we have at least one viable research-based theory of teacher education.

Thrust 2: Information Exchange System. My second suggestion is that we make more systematic use of the experience we gain in on-going program operation. One of the things I like best about the new Standards is their emphasis on evaluation, program review, and long-term planning. A program which meets the standards recommended in this area has within itself a mechanism for continuous growth and self-improvement provided by a system of feedback about program effectiveness. What I propose to add to this is provision for cross-fertilization between programs through a systematic exchange of this kind of information. This would be operated through a central data bank with a special system for information storage and retrieval.

There are doubtless a number of such systems which might serve, of which I shall suggest only one for purposes of discussion.

I would suggest that a special instrument be constructed on which the entire experience of one individual teacher education student may be recorded in a form which is easily accessible to a computer. Each student's record should include (1) data obtained at the time of admission, such as test scores and biographical data. (2) It should include data regarding his experiences during training--possibly in the form of courses taken and credits earned. (3) It should contain all available evaluation data obtained during training--course grades, test scores, ratings by supervisors, etc. And (4) it should include whatever follow-up data are obtained by the institution after the student graduates, especially those related to success or failure as a teacher.

I envision such data as being precoded and entered by the institution on special mark-sensing forms from which it may read onto master tapes by a Digitek, IBM 1230, or the like, and stored in a central data bank.

Once the bank had been set up, a user could test hypotheses about treatments by asking the bank questions of the form: "How have teachers with characteristics A, B, etc., who have had experiences X, Y, etc., performed (a) in training, and (b) on the job?" The inquirer could specify both the type of teacher and the nature of the experiences in as much detail as he chose. The computer would search all the records from all of the participating institutions and produce a report summarizing all relevant information about such teachers and, if desired, about a comparable group who had not had the experience as well.

The success of the proposed scheme would depend on the development of a recording procedure which would not place an undue clerical burden on the institution and yet would yield accurate and usable data. We have developed, in connection with a large-scale longitudinal study of early childhood education, an analogous information system. Here we have been recording the in-school experience of school children rather than college students. The child's experience is recorded by a non-professional recorder on a machine-scorable answer sheet from which it is read onto magnetic tape and collated with other records of the same child. The complete record constitutes something very like a narrative account of what has happened to the child during

his first five years in school. A program has been written which enables us to test hypotheses in the data in much the way we have proposed for the teacher education system, by merely punching the question on a parameter card and running it through the computer. We have considerable flexibility both as to the type of question we may ask and the kinds of records to be used in answering it.

I am in no sense of the term a systems expert, but our experience seems to indicate that this kind of operation is technically feasible. Whether or not it would be possible to get any sizable number of institutions to participate in such an operation is another matter. The potential value of the information available to each participating institution would seem to me to justify the trouble and expense involved. If the operation were managed by an agency such as the AACTE, it could also provide information highly relevant to such activities as the setting of standards for accreditation, at little extra expense.

Thrust 3. A Crash Program. Neither of the two strategies I have described can be expected to yield results that will be immediately useful as a basis for policy decisions such as setting accreditation standards. To provide something to use while we are waiting I am going to suggest a crash program designed to exploit the information available in current practice in teacher education--a one-shot affair (which some might describe as quick and dirty). I am talking about a large-scale questionnaire study patterned to some extent after the Equal Opportunities Survey, but focussed on teacher education institutions rather than on the schools.

Two kinds of data would be collected from two different sources. From every institution in the country that trains an appreciable number of teachers data would be collected about program characteristics of all kinds. Simultaneously, from first- and second-year teachers in a representative sample of the nation's schools data would be collected related to their success in teaching together with descriptive information about their preservice training--where it had been obtained, what specific courses were taken, and so on.

Modern statistical procedures are available which would make it possible to extract from these data estimates of relationships between specific elements in the programs and the success of graduates of those programs, partialing out such things as the school situation in which a teacher is

placed, variations in course patterns pursued by different teachers who are trained in the same basic program, and program characteristics other than the one being studied.

Despite these controls it is likely that relationships would be severely attenuated by uncontrolled sources of variation. The study would therefore need to be sufficiently large in size so that even moderate relationships could be detected reliably. Caution would need to be exercised in inferring causal relationships, and the data could scarcely be regarded as of high quality.

But the findings of such a study may be expected to shed light into many dark corners. Besides fulfilling their main purpose of providing direct evidence as to the validity of the proposed standards, the data should be rich in leads for research studies to be done under Thurst 1 and for program innovations to be tried under Thrust 2. I can conceive of no other way of moving so far so fast toward solving so many perplexing problems.

Concluding Remarks. Ever since I can remember I have heard research workers criticizing practitioners for not basing their decisions on research, and practitioners criticizing research workers for not developing useful and unambiguous information on which decisions could safely be based. Although I have not actually heard any recrimination from either group in relationship to the Recommended Standards for Accreditation, they do provide an excellent, and a disturbing example of such a gap--particularly in regard to my own assignments: standards of resources and facilities.

One can scarcely blame the committee which drew up the standards for using all the wisdom and experience they could command in doing so. Indeed, one can only admire them for the thoroughly workmanlike job they have done and the valuable tool they have forged for improving teacher education. If a researcher looking at them has any reaction it tends to be one of rueful admiration at how well they seem to do in an area where research is of so little assistance.

Nor do I think it fair to blame us research workders for not having provided more data relevant to the specific problems the committee faced, since we never offered to do the job in the first place. We have been too busy with a quite different problem: that of building a scientific basis

for teacher education. As so often happens, we have attended to the important at the expense of the merely urgent.

What I have tried to do today is to suggest that we clearly discriminate between two kinds of activity, both of which might be referred to as research in teacher education, since both are designed to improve it, but which differ sharply in their intermediate objectives--that is, in the strategies or means they employ to achieve their common ultimate goal.

I have suggested that we make a clear distinction between the two activities not so that we may press the one and neglect the other, but so that we may support and encourage both of them, and know when we are doing which and what to expect of each. I have also suggested how we might deploy our resources most effectively between them in the immediate future.

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